

iHOP

Information Hyperlinked  
Over Proteins

Search Gene

Show overview


Find in this Page

Filter and options



Gene Model

Developer's Zone


Help

Symbol	Name	Synonyms	Organism
 LGR5	leucine-rich repeat-containing G protein-coupled receptor 5	FEX, GPR49, GPR67, G-protein coupled receptor 49, G-protein coupled receptor 67, GRP49, HG38, Leucine-rich repeat-containing G-protein coupled receptor 5 precursor, MGC117008, Orphan G-protein coupled receptor HG38	Homo sapiens
UniProt	G75473, Q4VAM0, Q4VAM2		
OMIM	606667		
NCBI Gene	8549	more than 1,500 organisms. 80,000 genes. 12 million sentences.	
NCBI RefSeq	NP_063858	...always up-to-date.	
NCBI RefSeq	NM_003667		
NCBI UniGene	8549		
NCBI Accession	AAH96325, AAH96350		


Homologues of LGR5 ...

Interaction information for LGR5  ...Most recent information for LGR5  ... **new**

Enhanced PubMed/Google query ...

WARNING: Please keep in mind that gene detection is done automatically and can exhibit a certain error. Read more about synonym ambiguity and the iHOP confidence value .







Find in this Page 






Sentences in this view contain definitions for LGR5 - Definitions are available whenever you see this symbol  - Read more.




Show all

For a summary overview of the information in this page [click here.](#) **new**

Order by relevance


In addition to two recently isolated mammalian LGRs (leucine-rich repeat-containing, G protein-coupled receptors),  and , we further identified two new paralogs,  and , for glycoprotein hormone receptors. [2000]  




Recent studies indicated the evolution of an expanding family of homologous leucine-rich repeat-containing, G protein-coupled receptors (LGRs), including the three known glycoprotein  hormone receptors; mammalian  and ; and LGRs in sea anemone, fly, and snail. [2000]  

HG38  is most likely to be a receptor for a novel class of glycoprotein ligands. [1998]  


Concept 2  
Implementation  
by Robert Hoffmann


HG38  is most closely related to members of the [glycoprotein](#) hormone receptor subfamily with approximately 35% overall identity at the protein sequence level. [1998]


As with the [glycoprotein](#) hormone receptors, HG38  contains a long extracellular domain with a total of 16 [leucine-rich](#) repeats. [1998]



Comparison of overall [amino acid sequences](#) indicated that [LGR4](#)  and [LGR5](#)  are closely related to each other but diverge, during evolution, from the homologous receptor found in snail and the mammalian [glycoprotein](#) [\[7\]](#)  hormone receptors. [1998]


The physiological role of an orphan [G protein-coupled receptor](#) [\[7\]](#), [LGR5](#) , was investigated by targeted deletion of this seven-transmembrane protein containing a large N-terminal extracellular domain with [leucine-rich](#) repeats. [2004]


[LGR5](#)  null mice exhibited 100% neonatal lethality characterized by [gastrointestinal tract](#) dilation with air and an absence of milk in the stomach. [2004]

The observed ankyloglossia [phenotype](#) provides a model for understanding the genetic basis of this craniofacial defect in humans and an opportunity to elucidate the physiological role of the [LGR5](#)  signaling system during [embryonic development](#). [2004]


Gross and histological examination revealed fusion of the tongue to the floor of [oral cavity](#) in the mutant [newborns](#) and immunostaining of [LGR5](#)  expression in the [epithelium](#) of the tongue and in the mandible of the wild-type embryos. [2004]



In contrast to the restricted tissue expression of gonadotropin and TSH receptors in [gonads](#) and [thyroid](#), respectively, [LGR4](#)  is expressed in diverse tissues including ovary, [testis](#), adrenal, placenta, [thymus](#), [spinal cord](#), and [thyroid](#), whereas [LGR5](#)  is found in muscle, placenta, [spinal cord](#), and brain. [1998]





Moreover, introduction of mutant [beta-catenin](#) [\[7\]](#) into mouse [hepatocytes](#) in culture caused [up-regulation](#) of the [Gpr49](#)  mouse homologue. [2003]

Overexpression of orphan [G-protein-coupled receptor](#) [\[7\]](#), [Gpr49](#) , in human [hepatocellular carcinomas](#) with [beta-catenin](#) [\[7\]](#) mutations. [2003]

[Radiation hybrid](#) mapping placed HG38  into [human chromosome](#) 12q22-23. [1998]

[Northern blot](#) analysis showed that HG38  was expressed in [skeletal muscle](#), placenta, [spinal cord](#), and various regions of the brain. [1998]

In addition, expression of [GPR49](#)  induced transformation in a ligand-dependent manner and Knockdown of [GPR49](#)  mRNA level induced [apoptosis](#) in colon tumor cells. [2006]

However, we observed no induction of [GS](#), [GPR49](#) or [GLT-1](#) in the five [inactivated Axin1](#)  tumors. [beta-Catenin](#) -dependent [transcriptional activation](#) in two [Axin1](#) -mutated HCC [cell lines](#) was much weaker than in [beta-catenin](#) -mutated [cell lines](#). [2007]

These data therefore suggest that [GATA-6](#) [\[7\]](#) also plays a role in [chondrogenesis](#) and that [Gpr49](#) [\[7\]](#) is a potential direct [target](#) of [GATA](#) [\[7\]](#) regulation in this process. [2008]

Finally, we have identified conserved, canonical [GATA-6](#) binding sites within the [Gpr49](#) gene locus, and show by EMSAs that [GATA-6](#) can bind to these sites *in vitro*. [2008]

The expression pattern of [Lgr5](#) suggests that it marks [stem cells](#) in multiple adult tissues and cancers. [2007]

Thus, the aim of this study was to evaluate single-dose and steady-state [bioequivalence](#) of FEX 180 mg/PSE 240 mg 24-h compared with the individual formulations taken concurrently. [2005]

RESULTS: Pharmacokinetic parameters AUC0-infinity1 and Cmax1 following a single-dose (Day 1, dose 1), Cmax7, AUC0-24(7) at steady-state and Cmin7 measured at the end of the dosing interval (Day 9, dose 7) revealed [bioequivalence](#) between FEX 180 mg/PSE 240 mg combination tablet and the individual components taken concurrently. [2005]

Identification of [stem cells](#) in [small intestine](#) and colon by marker gene [Lgr5](#). [2007]

The [Lgr5](#)-positive crypt base columnar cell generated all epithelial lineages over a 60-day period, suggesting that it represents the [stem cell](#) of the [small intestine](#) and colon. [2007]

The levels of expression of [N-acetylglucosamine-6-O-sulfotransferase](#) ([GN6ST](#)), protein [tyrosine phosphatase](#) receptor M (PTPRM), G protein-coupled receptor 49 (HG38) and [KIAA1939](#) protein were determined in childhood precursor-B ALL samples from a cohort of 116 Indian patients. [2006]

CONCLUSIONS: These findings demonstrate that the [pharmacokinetics](#) of the new 24-h FEX 180 mg/PSE 240 mg combination formulation are bioequivalent to the concurrent administration of the individual drug components. [2005]

OBJECTIVE: A 24-h extended-release formulation of fexofenadine HCl 180 mg/[pseudoephedrine](#) HCl 240 mg (FEX 180 mg/PSE 240 mg) has recently been approved by the US [Food and Drug Administration](#) for symptom relief of seasonal [allergic rhinitis](#), including nasal congestion. [2005]

Seventh to tenth generation NPFs were cultured with or without 1 microg/ml [lipopolysaccharide](#) (LPS) in the presence of various concentrations of FEX. [2004]

The influence of [fexofenadine hydrochloride](#) (FEX, CAS [\[7\] 133452-21-8](#)) on the production of [eosinophil](#) chemoattractants, [RANTES](#) and [eotaxin](#), from [nasal polyp fibroblasts](#) (NPFs) was examined *in vitro*. [2004]

Simultaneous [urodynamic](#), neurophysiological, and radiological examinations employed during our studies enabled us to determine changes in these parameters due to FEX. [1976]

We also show that the [G-protein coupled receptor](#) [\[7\]](#), [Gpr49](#) [\[7\]](#), is a target of [GATA-6](#) [\[7\]](#) regulation in differentiating [embryonal carcinoma](#) cells and that, *in vivo*, the expression domains of the two genes overlap within PCCs. [2008]

Please cite the use of iHOP as "Holmann, R., Valencia, A. A gene network for navigating the literature. *Nature Genetics* 36, 664 (2004)" and as "iHOP - <http://www.ihop-net.org/>".

Special thanks to Chris Sander for his continuing support.